

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of )  
 )  
RECONROBOTICS, INC. ) WP Docket No. 08-63  
 )  
Request for Waiver of Part 90 of the )  
Commission's Rules )  
 )  
Petitions for Reconsideration )

**ORDER ON RECONSIDERATION**

**Adopted: April 13, 2011**

**Released: April 15, 2011**

By the Chief, Wireless Telecommunications Bureau, Chief, Public Safety and Homeland Security Bureau, and Chief, Office of Engineering and Technology:

1. *Introduction.* This *Order on Reconsideration* addresses three petitions for reconsideration of an *Order* by the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau (the Bureaus).<sup>1</sup> The *Order* granted a request filed by ReconRobotics, Inc. (ReconRobotics) for a waiver of the Commission's Part 90 rules to permit certification and use of the Recon Scout, a remote-controlled, maneuverable surveillance robot operating in the 420-450 MHz band. W. Lee McVey,<sup>2</sup> Kristopher Kirby,<sup>3</sup> and the American Radio Relay League, Inc. (ARRL)<sup>4</sup> filed petitions for reconsideration.<sup>5</sup> These petitions largely raise issues that were adequately addressed in the original *Order*. For this and other reasons set forth below, we deny the McVey and Kirby petitions, and deny in part the ARRL petition, but grant ARRL's request for a modified labeling requirement.

2. *Background.* In 2008, ReconRobotics filed a request for waiver of Sections 90.101, 90.207 and 90.209 of the Commission's Rules<sup>6</sup> to permit equipment authorization and customer licensing

<sup>1</sup> See ReconRobotics, Inc., *Order*, WP Docket No. 08-63, 25 FCC Rcd 1782 (WTB/PSHSB 2010) (*Order*).

<sup>2</sup> Petition for Reconsideration of Waiver Grant to ReconRobotics, Inc. (filed Mar. 6, 2010) (McVey Petition).

<sup>3</sup> Letter from Kristopher Kirby to Federal Communications Commission (filed Mar. 10, 2010) (Kirby Petition).

<sup>4</sup> Petition for Reconsideration (filed Mar. 24, 2010) (ARRL Petition). ARRL also requested that we stay the *Order*, to prevent the marketing and deployment of the Recon Scout pending the resolution of the petitions for reconsideration. *Id.* at 1 n.1. Because no applications to authorize operations pursuant to the *Order* have been granted, *see note 17, infra*, we deny the stay request.

<sup>5</sup> In addition, James Edwin Whedbee filed a motion to set the *Order* aside, and related pleadings. Motion to Set Aside, Vacate, or Correct Order by Cancellation of the Waiver Order, Construing the Application Therefor as a Petition for Rulemaking, and Reinstating Proceedings as a Notice of Proposed Rulemaking Consistent with 5 U.S.C. Section 553 (filed Aug. 19, 2010) (Motion). Although Whedbee did not caption his Motion as a petition for reconsideration, we will treat it as such because it clearly seeks review of the *Order*. *See* Nevada Ready Mix Corp., *Order on Reconsideration and Order Proposing Modification*, 24 FCC Rcd 4648, 4649 ¶ 7 (WTB MD 2009) (citing Jack Gerritsen, *Memorandum Opinion and Order*, 20 FCC Rcd 4273, 4273 n.3 (EB 2005); Redlands Municipal Airport, *Order on Reconsideration*, 20 FCC Rcd 14782, 14782 ¶ 4 (WTB PSCID 2005)). The *Order* was released on February 23, 2010, so petitions for reconsideration were due thirty days later, on March 25, 2010. *See* 47 C.F.R. § 1.106(f). We therefore agree with ReconRobotics that the Motion should be dismissed as untimely. *See* Opposition to Motion to Set Aside at 1 (filed Aug. 20, 2010).

<sup>6</sup> *See* 47 C.F.R. §§ 90.101 (limiting Part 90 use of 420-450 MHz to radiolocation), 90.207 (modulation), 90.209 (bandwidth).

for the Recon Scout, and its use by state and local public safety agencies, and security personnel in critical infrastructure industries. The Recon Scout can be thrown, dropped, or launched into potentially hazardous areas, and transmits real-time video surveillance data back to the operator on frequencies on one of three channels: 430-436 MHz, 436-442 MHz, and 442-448 MHz.<sup>7</sup> A waiver was required to permit the device to transmit surveillance data in the 420-450 MHz band, which is allocated to the federal radiolocation service on a primary basis, and to the amateur service and certain non-federal radiolocation systems on a secondary basis.<sup>8</sup>

3. The Bureaus sought comment on the waiver request.<sup>9</sup> In response, over seventy comments were filed. Generally, public safety and law enforcement entities commented in support of the waiver request, and amateur radio commenters (including ARRL, but not the other petitioners) opposed it.<sup>10</sup>

4. After consideration of the record, the Bureaus granted the request pursuant to Section 1.925(b)(3)(i) of the Commission's rules, which provides authority to grant a waiver if the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and grant of the requested waiver would be in the public interest.<sup>11</sup> The Bureaus concluded that the underlying purpose of the rules would not be served by strict application because the Recon Scout was not likely to cause interference to other services, and ReconRobotics acknowledged that the Recon Scout would operate on a secondary basis to other users.<sup>12</sup> The Bureaus held that grant of the request would be in the public interest because it would improve officer safety in many high-risk situations with a likelihood of death or serious harm.<sup>13</sup> They acknowledged commenters' concerns that interference to the Recon Scout from higher power sources could impair its reliability, but concluded that the possibility of such interference in some instances was not a reason to prohibit its use in all instances.<sup>14</sup>

5. Consequently, the Bureaus granted the waiver request, subject to certain conditions.<sup>15</sup> The number of units to be sold was limited to 2,000 during the first year following equipment approval, and 8,000 during the second year. The first unit to be sold to a responding organization must operate on 436-442 MHz, with the 442-448 MHz version being sold only to entities that already own the 436-442 MHz version, and the 430-436 MHz version being sold only to entities that already own the other two versions. Operation was prohibited prior to grant of individual licenses to eligible entities,<sup>16</sup> which would not be granted until after ReconRobotics obtained equipment authorization.<sup>17</sup> The Bureaus expressly

<sup>7</sup> See Order, 25 FCC Rcd at 1783 ¶ 3.

<sup>8</sup> See 47 C.F.R. §§ 2.106, 90.103(c)(21), 97.303(f). Non-federal radiolocation stations are secondary to both federal radiolocation stations and amateur stations.

<sup>9</sup> See Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau Seek Comment on Request for Waiver by ReconRobotics, Inc. to Allow Certification and Use of Remote-Controlled Surveillance Robot Operating at 430-448 MHz, *Public Notice*, WP Docket No. 08-63, 23 FCC Rcd 7437 (WTB/PSHSB 2008).

<sup>10</sup> See Order, 25 FCC Rcd at 1783-84 ¶ 5.

<sup>11</sup> See 47 C.F.R. § 1.925(b)(3)(i).

<sup>12</sup> See Order, 25 FCC Rcd at 1784-85 ¶¶ 7-9.

<sup>13</sup> *Id.* at 1785-86 ¶ 10.

<sup>14</sup> *Id.* at 1786 ¶ 10.

<sup>15</sup> *Id.* at 1786-88 ¶¶ 11-13.

<sup>16</sup> Eligibility was limited to state and local police and firefighters and security personnel in critical infrastructure industries, and use of the Recon Scout was limited to actual emergencies and necessary training related to such operations.

<sup>17</sup> To date, no applications for individual licenses to operate the Recon Scout have been granted.

provided that operation of the Recon Scout would be on a secondary basis to all federal users and licensed non-federal users.<sup>18</sup> At the request of the National Telecommunications and Information Administration (NTIA), the Bureaus prohibited training operations within thirty kilometers of certain federal radiolocation sites, and required Recon Scout transmitters to be labeled as follows: “This device may not interfere with Federal stations operating in the 420-450 MHz band and must accept any interference received.”<sup>19</sup> In addition, the *Order* required that the following statement be placed in the instruction manual: “Although this transmitter has been approved by the Federal Communications Commission, there is no guarantee that it will not receive interference.”<sup>20</sup>

6. *Discussion.* The three petitions raise several issues for reconsideration, including some overlapping issues. As noted above, the petitions largely raise issues that we have previously considered and addressed earlier in this proceeding. For the reasons set forth below, we deny the McVey and Kirby petitions, and grant in part and deny in part the ARRL petition.

7. First, McVey and ARRL argue that the waiver is invalid because the only Part 90 operation for which the 420-450 MHz band is allocated is radiolocation, and the *Order* did not waive the Table of Allocations.<sup>21</sup> ARRL further argues that manufacturer-specific waivers of the Table of Allocations are inappropriate.<sup>22</sup> We disagree. Party-specific waivers of the Table of Allocations are neither prohibited nor particularly unusual.<sup>23</sup> We agree, however, that the *Order* should have included applicable provisions of Section 2.106 among the rules waived. We therefore retroactively waive the Table of Allocations to the extent necessary to permit use of the Recon Scout.

8. Next, McVey and ARRL argue that there are alternative frequency bands that would be suitable for the Recon Scout, and that test data submitted by ReconRobotics to demonstrate the particular suitability of the 420-450 MHz band was flawed and incomplete.<sup>24</sup> Even if true, we conclude that these claims would not constitute grounds for reversing the *Order*. As noted above, the Bureaus granted the waiver request pursuant to Section 1.925(b)(3)(i) of the Commission’s rules, which did not require ReconRobotics to demonstrate the absence of alternatives to the 420-450 MHz band. Nor were the Bureaus required by Section 1.925(b)(3)(i) to address alternatives in order to grant the requested waiver.<sup>25</sup>

9. While we agree with McVey and ARRL that there were possible inconsistencies between particular readings in the test data, we believe the test data nonetheless demonstrated the particular suitability of the 420-450 MHz band, because it showed that the received signal strength for the 434 MHz band is generally greater than that for the 915 MHz band.<sup>26</sup> Further, we agree with ReconRobotics that

<sup>18</sup> *Id.* at 1787 ¶ 11.

<sup>19</sup> *Id.* at 1786-87 ¶ 11. Because the 420-450 MHz band is allocated to the federal radiolocation service on a primary basis, ReconRobotics’s waiver request was coordinated with NTIA, which administers authorizations for federal stations. *Id.* at 1783 n.14.

<sup>20</sup> *Id.* at 1787-88 ¶ 11.

<sup>21</sup> See Kirby Petition at 1; ARRL Petition at 4.

<sup>22</sup> See ARRL Petition at 5, 10.

<sup>23</sup> See, e.g., Globalstar Licensee LLC, *Order*, 25 FCC Rcd 13114, 13132 ¶ 48 (IB/WTB/OET 2010); County of Franklin, Pennsylvania, *Order*, 25 FCC Rcd 8111, 8118 ¶ 18 (PSHSB PD 2010).

<sup>24</sup> See McVey Petition at 6-10; ARRL Petition at 6-7, Ex. B.

<sup>25</sup> See, e.g., Wayne D. Johnsen, Esq., *Letter*, 25 FCC Rcd 13699, 13702 (WTB BD 2010). ReconRobotics was thus not required, as ARRL suggests, to conduct tests “represent[ing] the wide range of buildings and building penetration likely to be encountered in real-world environments.” See ARRL Petition at Ex. B at 1.

<sup>26</sup> See ReconRobotics, “Empirical Study of the Effects of 434 MHz vs. 915 MHz Frequency Band on the Performance of the Recon Scout” at 8 (filed Nov. 3, 2008).

alternative frequency bands (902-928 MHz, 2.4 GHz and 5.8 GHz) do not propagate as well through building materials, and that use of these frequencies would therefore require additional power for building penetration, resulting in a heavier device with a reduced throwing range and/or shorter battery life.<sup>27</sup>

10. Consequently, we are unpersuaded by ARRL's reference to the decision of the Wireless Telecommunications Bureau's Mobility Division (Division) involving Terry Mahn.<sup>28</sup> ARRL cites the *Mahn* decision for the proposition that a waiver should not be granted merely to accommodate a manufacturer's choice of frequency.<sup>29</sup> In that case, however, the frequency at issue was chosen solely because it was harmonized for operation in the European Union, and not for performance considerations. Indeed, the Division specifically noted that the petitioner made no showing that the frequency offered superior performance over frequencies not requiring a waiver.<sup>30</sup> The decision is thus distinguishable from the present matter, where the record demonstrates the particular suitability of the chosen band.

11. ARRL also argues that the grant was not in the public interest because operation of the Recon Scout will cause interference to amateur operations.<sup>31</sup> The Bureaus considered arguments made by ARRL and others in this regard, but concluded that they did not present sufficient grounds to deny the waiver request. Specifically, the Bureaus concluded that the low power, infrequent use, and limited number of Recon Scouts significantly reduced the possibility of interference to amateur operations. When coupled with Recon Scout's potential value in high-risk, public safety situations with a likelihood of death or serious harm, the Bureaus determined that grant of the request served the public interest.<sup>32</sup>

12. We disagree with ARRL's assertion<sup>33</sup> that the Bureaus' action conflicted with the near-contemporaneous decision<sup>34</sup> of the Office of Engineering and Technology dismissing a similar waiver request filed by Octatron, Inc. and Chang Industry, Inc. The two matters are distinguishable. *Octatron/Chang* involved a request for waiver of the Part 15 rules to permit unlicensed operation of a surveillance device that can be thrown into a potentially hazardous location (or be held aloft on a pole), but cannot move under its own power and thus can transmit surveillance data only from the location where it comes to rest (or is held). In contrast, use of the Recon Scout is permitted only pursuant to

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<sup>27</sup> See ReconRobotics Petition at 2-3.

<sup>28</sup> Terry Mahn, Esq., *Letter*, 21 FCC Rcd 14409 (WTB MD 2006) (*Mahn*).

<sup>29</sup> See ARRL Petition at 5.

<sup>30</sup> See *Mahn*, 21 FCC Rcd at 14411.

<sup>31</sup> See ARRL Petition at 10-13.

<sup>32</sup> See *Order*, 25 FCC Rcd at 1784-85 ¶¶ 7-9. Moreover, we disagree with ARRL's assertion that there is no limit on the number of units that can be deployed in a given area, and no database to be consulted to determine the source of interference. See ARRL Petition at 12. Recon Scouts cannot operate in proximity on the same channel without causing interference to each other. See *Order*, 25 FCC Rcd at 1783 ¶ 3. As a practical matter, then, no more than three units can be used at the same location. Also, operation of the Recon Scout will require a separate Commission authorization, *see id.* at 1788 ¶ 13, so interested parties will be able to determine from the Commission's Universal Licensing System what entities are authorized to operate in a particular location. In addition, to protect licensees in the unlikely case of interference, the *Order* requires licensees to maintain a log of all Recon Scout use, including date of operation, start/stop times, location of operation, frequency of operation, reason for use, and point of contact. *See id.* We believe this information serves as an important tool to identify the source of interference in an interference complaint. Finally, ARRL questions why, if interference is unlikely, the Bureaus prohibited Recon Scout training operations within thirty kilometers of certain federal radiolocation sites. See ARRL Petition at 11. As the *Order* indicated, that prohibition was imposed at the request of NTIA, with which the waiver request was coordinated because the 420-450 MHz band is allocated to the federal radiolocation service on a primary basis.

<sup>33</sup> See ARRL Petition at 7-9.

<sup>34</sup> See Octatron, Inc. and Chang Industry, Inc., *Order*, 25 FCC Rcd 2627 (OET 2010) (*Octatron/Chang*).

individual licensing, which permits interested parties to locate Recon Scout users and identify sources of interference. In addition, the maneuverability of the Recon Scout provides greater public safety utility than the static device at issue in *Octatron/Chang*. Also, there already exists a version of the device at issue in *Octatron/Chang* that complies with the Part 15 rules, so grant of a waiver would have authorized only a modified version, rather than a new device for use in public safety and homeland security.

13. Kirby and ARRL argue that the grant was not in the public interest because the Recon Scout will incur interference from amateur operations, which could endanger law enforcement personnel.<sup>35</sup> The Bureaus weighed this concern as well, but concluded that the possibility of the device incurring interference in some instances did not present a compelling reason to prohibit its use in all instances.<sup>36</sup> We adhere to that view. ReconRobotics has accepted that it may receive interference from amateur operations, and the *Order* specifies that the Recon Scout must accept interference from licensed users.

14. ARRL also argues that the labeling requirements in the *Order* are insufficient to convey to the user the operating limitations on the devices, as they do not recognize the protection afforded to non-federal users in the band.<sup>37</sup> As noted above, the labeling requirements were imposed at the request of NTIA, which is interested primarily in protecting federal operations. ARRL requests that the label be modified to provide as follows: “This device may not interfere with Federal or non-federal stations operating in the 420-450 MHz band and must accept any interference received.”<sup>38</sup> ARRL also requests that the instruction manual language be modified to more clearly explain the conditions of operation, by stating as follows: “Although this transmitter has been approved by the Federal Communications Commission, it must accept any interference received from Federal or non-federal stations, including interference that may cause undesired operation.”<sup>39</sup> ReconRobotics assents to these proposed changes.<sup>40</sup> We agree that these changes to the label and instruction manual will better apprise Recon Scout users of the status of their operations, and accordingly grant ARRL’s requests.<sup>41</sup>

15. Finally, McVey and ARRL argue that the *Order* should be reconsidered on the grounds that ReconRobotics has been marketing uncertified devices and that the devices have been operating without authorization.<sup>42</sup> ARRL notes that it provided this information to the Commission’s Enforcement Bureau.<sup>43</sup> We agree with ReconRobotics that these allegations should be addressed by the Enforcement Bureau, and not adjudicated in the context of petitions for reconsideration of the grant of the waiver.<sup>44</sup>

16. *Conclusion and Ordering Clauses.* We agree with ARRL that the instruction manual and

<sup>35</sup> See Kirby Petition at 1; ARRL Petition at 10.

<sup>36</sup> See *Order*, 25 FCC Rcd at 1785-86 ¶ 10. The Bureaus also pointed out that the record indicated that the Recon Scout is intended to be used in a potentially dangerous situation *prior* to entry by live personnel, reducing the chance that interference to the video signal would endanger law enforcement personnel. *Id.* at 1786 ¶ 10.

<sup>37</sup> See ARRL Petition at 14-15.

<sup>38</sup> *Id.* at 15.

<sup>39</sup> *Id.*

<sup>40</sup> See Opposition of ReconRobotics, Inc. to the Petition for Reconsideration of ARRL at 13 (ReconRobotics Opposition to ARRL Petition).

<sup>41</sup> The new requirements apply to Recon Scout transmitters delivered after the release of this *Order on Reconsideration*. ReconRobotics is not required to relabel units already in purchasers’ possession.

<sup>42</sup> See McVey Petition at 2-6; ARRL Petition at 15-16.

<sup>43</sup> See ARRL Petition at 16.

<sup>44</sup> See ReconRobotics Opposition to ARRL Petition at 14.

labeling of the Recon Scout should be amended to clarify that the Recon Scout will operate on a secondary basis to, and must accept interference from, both federal and non-federal users. We modify the language to reflect this change. In all other respects, however, we deny the petitions for reconsideration of the *Order*.

17. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 405, and Section 1.106 of the Commission's Rules, 47 C.F.R. § 1.106, the petitions for reconsideration filed by W. Lee McVey and Kristopher Kirby on March 6, 2010 and March 10, 2010 ARE DENIED; the petition for reconsideration filed by the American Radio Relay League, Inc. on March 24, 2010 IS GRANTED IN PART AND DENIED IN PART to the extent set forth above; and the Motion to Set Aside, Vacate, or Correct Order by Cancellation of the Waiver Order, Construing the Application Therefor as a Petition for Rulemaking, and Reinstating Proceedings as a Notice of Proposed Rulemaking Consistent with 5 U.S.C. Section 553 filed by James Edwin Whedbee on August 19, 2010 IS DISMISSED.

18. This action is taken under delegated authority pursuant to Sections [0.31](#), [0.131](#), [0.191](#), [0.241](#), [0.331](#), and [0.392](#) of the Commission's Rules, 47 C.F.R. §§ [0.31](#), [0.131](#), [0.191](#), [0.241](#), [0.331](#), and [0.392](#).

FEDERAL COMMUNICATIONS COMMISSION

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